Amendments to the Drawings begin on page 11 of this paper and include both an attached replacement sheet of FIG. 2 and an annotated sheet of FIG. 2 showing changes.

REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1-9 are pending in the application. Claims 1 and 6-9 are rejected. Claims 2-5 are objected to. Claims 10-19 are canceled herein without prejudice according to an election made in response to a Restriction Requirement dated March 21, 2006.

As an initial matter, Applicants note that a drawing amendment made to FIG. 3 earlier submitted on Jan 17, 2006 has not been indicated as being approved by the Examiner. Approval of the drawing change is respectfully requested.

In the Specification

In the specification, Applicants have amended a paragraph above, merely to correct a typographical error.

In the Drawings

In the drawings, Applicants have amended FIG. 2 above, merely to correct a small timing error.

The Rejections under 35 U.S.C. §112, First Paragraph

The Examiner rejects Claim 9 under 35 U.S.C. §112 first paragraph as failing to comply with the enablement requirement.

Applicant's attorney would like to remind the Examiner of a telephone call on June 29, 2006, in which Applicant's attorney discussed this rejection with the Examiner. In accordance with the telephone call, Applicants respectfully direct the Examiner's attention to page 2, line 4 of the specification, where a patent application, 10/156,684, filed May 28, 2002, is incorporated

by reference. The incorporated application is again mentioned at page 13, lines 4 and 5. The incorporated application has since issued as U.S. Patent Number 6,693,419, with issue date February 17, 2004. In U.S. Patent 6,693,419, FIGS. 10 and 11 describe the arrangement of Claim 9, wherein "...said magnetic field signal is brought to substantially the same level as said tracking signal in response to changes in state of said POSCOMP signal." FIGS. 10 and 11 are described in U.S. Patent 6,693,419 from column 12, line 17 to column 13, line 20. In particular, the claimed arrangement is described, for example, at column 13, lines 6-16.

Thus, Applicants submit that Claim 9 is proper under 35 U.S.C. §112, first paragraph.

In view of the above, Applicants submit that the rejection of Claim 9 under 35 U.S.C. §112, first paragraph, should be removed.

The Rejections under 35 U.S.C. §103(a)

The Examiner rejects Claims 1 and 6-8 under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art (AAPA) of the present application in view of Smith et al. (U.S. Patent number 5,451,946). With regard to Claim 1, the Examiner recognizes that the AAPA does not teach "coarse and fine DACs and a summing circuit." The Examiner relies upon Smith et al. as teaching the coarse and fine DACs and the summing circuit. The Examiner concludes that it "...would have been obvious at the time the invention was made to modify the AAPA to incorporate the coarse/fine DAC of Smith into the apparatus of AAPA... ." Applicants respectfully disagree.

As the Examiner is aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." Applicants respectfully submit that the Examiner has not met this burden in order to establish prima facie obviousness.

The present invention attempts to solve problems in the AAPA, described for example in the paragraph beginning at page 3, line 28 of the specificaiton. Briefly stated, in the AAPA, a DAC used to track a magnetic field signal, and having a sufficient number of bits to provide tracking accuracy may have a relatively slow conversion time and may be unable to convert fast enough to track a rapidly changing magnetic field signal.

In contrast, Smith et al. attempts to solve a need described, for example, in column 1, lines 40-43, where Smith et al. states "...a need exists for a DAC which exhibits good excess glitch energy and settling performance while also exhibiting good linearity." Smith uses a combination of DACs having two different step sizes merely to provide a more linear DAC.

Therefore, since the AAPA and Smith et al. are directed toward solutions to different problems, one of ordinary skill in the art and having the AAPA and faced with the problems sought to be solved by the present invention, would not look to Smith et al. for a solution.

Furthermore, even if one were to combine the AARP with Smith et al., still the claimed invention would not result. Instead, the AARP would benefit only from having an improved linearity DAC with smaller glitch energy as described by Smith et al. The DACs of Smith et al. would not be used to provide larger steps as in FIG. 5 of the present application, in order for a tracking signal, PEAKDAC, to have two different step sizes, allowing the tracking signal to move rapidly when required to catch up with a rapidly changing magnetic field signal, DIFF.

In view of the above, Applicants submit that Claim 1 is patentably distinct over the AAPA, whether taken alone or in combination with Smith et al.

Claims 6-8 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 6-8 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

In view of the above, Applicants submit that the rejection of Claims 1 and 6-8 under 35 U.S.C. §103(a) should be removed.

The Claim Objections

The Examiner objects to Claims 2-5 as being dependent upon a rejected base claim, but indicates that Claims 2-5 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

For the above reasons, Applicants submit that independent Claim 1, from which Claims 2-5 depend, is patentably distinct over the cited references. Therefore, Applicants submit that Claims 2-5 are allowable in their present dependent form.

In view of the above Amendment and Remarks, Applicants submit that Claims 1-9 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

Respectfully submitted,

Dated: July 25, 2006

DALY, CROWLEY, MOFFORD & DURKEE, LLP

By: _____

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Enclosures

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Appendix:

FIG. 2 is attached both as a Replacement Sheet and also as an Annotated Sheet Showing Changes.

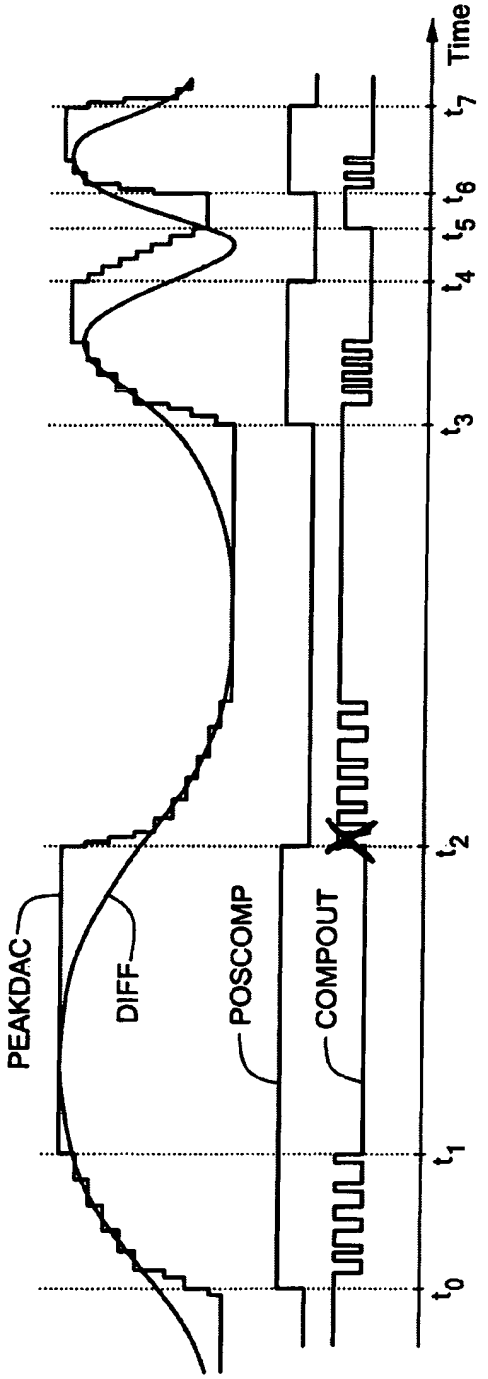

FIG. 2